

In the Drawings:

Enclosed is a replacement sheet for Fig. 1. Subject to the approval of the Examiner, it is respectfully requested that the new drawing sheet be substituted for the originally filed drawing sheet for Fig. 1.

An extra copy of the original drawing sheet with changes indicated in red, is also attached.

Remarks

The above Amendments and these Remarks are in reply to the Office Action mailed April 19, 2006.

Claims 1-41 were pending in the Application prior to the outstanding Office Action. In the Office Action, the Examiner rejected claims 1-41. The present Reply amends claims 1-5, 7, 9-11, 14, 16, 18-21, 24, 26-29, 31, 33, 35-36, and 41, leaving for the Examiner's present consideration claims 1-41. Reconsideration of the rejections is requested.

I. Summary of Examiner's Objections

The drawings were objected to due to the omission of the legend Prior Art in Figure 1.

The specification was objected to due to the use of trademarks presented without capitalization.

Claims 16, 33 and 36 were objected to due to certain informalities.

II. Summary of Examiner's Rejections

Claims 1-41 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

Claims 1-17 and 40-41 were rejected under 35 U.S.C §101 as being directed to non-statutory subject matter.

Claims 1-2, 5-19, and 22-41 were rejected under 35 USC 103(a) as being unpatentable over Wiederhold (U.S. 6,226,745) in view of Devine et al. (U.S. 6,606,708) and further in view of Blewett (U.S. 5,551,040).

Claims 3-4 and 20-21 were rejected under 35 USC 103(a) as being unpatentable over Wiederhold in view of Devine et al. and Blewett and further in view of javaworld.com.

III. Summary of Applicant's Response

Applicant amended the drawings, specification, and claims to overcome the office action's Objections, 35 U.S.C. §112 rejections, and 35 U.S.C. §101 rejections.

With regards to the 35 U.S.C. § 103 (a) rejection, Claim 1 is patentable over Wiederhold in view of Devine and further in view of Blewett. The applicant's specification describes two innovations that are not found in the prior art. The first innovation is the idea of a pluggable security framework, where different security providers may be plugged into a security service to make contributory decisions regarding whether or not to permit access to a protected resource. The second innovation is to use Context Information from the Application Container through callbacks to be able to dynamically assign a role to a user at run-time, instead of relying upon static pre-defined roles for security permissions. For similar reasons, claims 2-41 are also patentable.

IV. Response to Rejections

1. Objections

Applicant's drawings, specification, and claims 16, 33, and 36 were amended to overcome the office action's objections. Accordingly, it is respectfully requested that these objections be withdrawn.

2. Claim Rejections under 35 U.S.C. § 112

Claims 1-5, 7, 9-11, 14, 18-21, 24, 26-29, 31, 35, and 36 were amended to overcome the office action's twenty-two 35 U.S.C. § 112 rejections to claims 1-41. Accordingly, it is respectfully requested that these rejections be withdrawn.

3. Claim Rejections under 35 U.S.C. § 101

Claim 1 was amended to overcome the office action's rejections to claims 1-17, 40-41. Accordingly, it is respectfully requested that these rejections be withdrawn.

4. Claim Rejections under 35 U.S.C. § 103 (a)

Claim 1 is patentable over Wiederhold in view of Devine and further in view of Blewett:

Claim 1 has been amended by the current response to more clearly define the embodiment of the invention therein. As amended, claim 1 defines:

1. (Currently Amended): A security system for allowing a client to access a protected resource through an application container, the security system comprising:
an application interface mechanism for receiving an access request from a client to access said protected resource, and communicating the access request to the application container, and the application container calls the security service with the access request and a callback handler;
said security service for making a decision to permit or deny the access request, wherein the security service includes a plurality of security providers that may be plugged into the security service, and wherein the plurality of security providers use the callback handler to request context information from the application container for the access request, and wherein depending on output from each security provider the security service determines entitlements for the client to use with the protected resource;
said security service is located at a first computer, and said protected resource is located either at the same first computer or at a second computer; and
a resource interface for communicating permitted access requests to said protected resource.

The two primary advantages of the system defined by Claim 1 are the pluggable architecture to allow business logic and security plug-ins into the security service and the ability to assign security roles to a user at run-time through the use of Context Information and callbacks. Traditional security mechanisms tend to be context-less since they are based solely on pre-existing permissions granted to a principal for a given resource; therefore, the only types of authorization decisions that can be made are whether the principal has the necessary permissions to access the resource. In accordance with Claim 1, a pluggable architecture allows security and business logic plugins to be inserted into a security service, and to control access to protected resources. A request context may include the identity of the target object, the value of the parameter of the request, and potentially environmental information such as the network or IP address of the initiating client. The providing of context information without prior knowledge is accomplished by using

callbacks to the containers from the authorization provider. Dynamic Role Association, as described in Applicant's specification, uses Context Information and callbacks as described above to go beyond static pre-defined roles and assign security roles to a user at run-time (See Applicant's specification, paragraphs 0043-0055).

Wiederhold discloses a security mediator system for use with a Relational Database System. The security mediator uses a key word list and a rules engine to approve or deny queries and result sets. Wiederhold also includes a human being, the Security Officer, for additional security functions.

The applicant's invention was meant to solve a different business problem than the problem that faced Wiederhold. Wiederhold's security system depends upon pre-defined security roles whereas the applicant's invention allows you assign roles dynamically to users at run-time by making callbacks to the application container for context information to dynamically set the user (or client) role at runtime. Wiederhold's security mediator allows a human being (the security officer) to write additional security rules, but there is no provision for plugging in additional security providers into the Security Service. Wiederhold's application was meant to modify a Relational Database Management System, whereas the Applicant's invention involves a J2EE Application Container.

Neither does Devine teach callback handlers or context information or using callbacks to request context information. Instead, Devine teaches that when a user logs into a specific application with a ID and password, an application server retrieves user entitlements for that application. (col. 27, lines 15-18). Devine teaches that the user logs into the specific application on a Web Page (col. 27, line 34) using a GUI interface. (Fig. 6). As defined in Devine, entitlements represent specific services to which the user has subscribed and has privilege to access, i.e. standard pre-defined role-based permissions (Col. 16, lines 46-47). There is no use of context information or callback handlers related to the user's request to access the specific application in order to dynamically define the user's role at run-time. Further, the servers described in Devine are not application containers. Finally, the GUI interface into which the user logs on to the application,

does not read on the use of callbacks and call back handlers because the GUI interface only handles the means by which the user makes a request to access an application. Thus, Devine does not teach callbacks, callback handlers, use of context information or application containers, as required by Claim 1.

Blewett teaches call backs for event handling for Graphic User Interfaces (GUI). Blewett does not teach callbacks for communication between a Service and an Application Container. Blewett's use of callbacks is far different from the applicant's invention "wherein the plurality of security providers use the callback handler to request context information from the application container for the access request," (Claim 1, as amended).

Neither Wiederhold nor Devine nor Blewett teach the use of Application Containers or Context Information. Paragraph 0034 of the Applicant's specification, states "the terms used in this document are consistent with terminology as defined in standard texts on Java, Enterprise JavaBeans, WebLogic Server, and other generally accepted security concepts." The J2EE specification states that Application "Containers provide the runtime support for J2EE application components. Containers provide a federated view of the underlying J2EE APIs to the application components. J2EE application components never interact directly with other J2EE application components. They use the protocols and methods of the container for interacting with each other and with platform services." (Page 8 of the J2EE specification, http://java.sun.com/j2ee/j2ee-1_4-fr-spec.pdf). Context Information is another term well-known in the art. Specific types of context information include the ServletContext that describes a set of methods that a servlet uses to communicate with its application container (<http://java.sun.com/j2ee/1.4/docs/api/javax/servlet/ServletContext.html>) and the EJBContext that provides an EJB instance with access to the container-provided runtime context of an enterprise Bean (<http://java.sun.com/j2ee/1.4/docs/api/javax/ejb/EJBContext.html>). The above definitions establish a major difference between the Applicant's invention and Wiederhold in view of Devine and further in view of Blewett.

For the above reasons, Applicant respectfully submits that the embodiment as defined in Claim 1 is neither anticipated by nor obvious in view of Wiederhold and Devine and Blewett, taken alone or in combination. Even if javaworld.com was added as a reference, the resulting combination would be distinguishable from claim 1 and the Applicant's invention as described in the specification. Furthermore, the combination of Wiederhold and Devine and Blewett is not obvious. We respectfully request that the rejection to claim one be withdrawn.

Dependent claims 2-17, 40-41 depend from claim 1. For at least the reasons discussed above with regards to claim 1, claims 2, 5-17, 40-41 are also patentable over Wiederhold in view of Devine et al. and further in view of Blewett. For the reasons discussed above, dependent claims 3-4 are patentable over Wiederhold in view of Devine et al. and Blewett and further in view of javaworld.com.

It is also submitted that claims 2-17, 40-41 also add their own limitations which render them patentable in their own right. Applicant reserves the right to argue these limitations should it become necessary in the future.

Independent claim 18 and its dependent claims 19-34 are believed to be patentable for reasons similar to those discussed above with regards to claims 1-17, 40-41.

Independent claim 35 and its dependent claims 36-39 are believed to be patentable for reasons similar to those discussed above with regards to claims 1-17, 40-41.

In light of the above, it is respectfully submitted that all of the claims now pending in the subject patent application should be allowable, and a Notice of Allowance is requested. I will call the examiner in two weeks to request an interview for the purposes of discussing claim 1 and the applicability of Wiederhold in view of Devine and further in view of Blewett. The Examiner is respectfully requested to telephone the undersigned before an advisory action is issued in order to avoid any unnecessary filing of an appeal.

Enclosed is a PETITION FOR EXTENSION OF TIME UNDER 37 C.F.R. § 1.136 for extending the time to respond up to and including today, August 23, 2006.

The Commissioner is authorized to charge any underpayment or credit any overpayment to Deposit Account No. 06-1325 for any matter in connection with this response, including any fee for extension of time, which may be required.

Respectfully submitted,

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